

# Role for phosphatidylinositol 4-kinase III $\beta$ in cardiac metabolic diseases

Citation for published version (APA):

Sun, A. (2020). Role for phosphatidylinositol 4-kinase III $\beta$  in cardiac metabolic diseases. [Doctoral Thesis, Maastricht University]. Gildeprint Drukkerijen. <https://doi.org/10.26481/dis.20200908as>

**Document status and date:**

Published: 01/01/2020

**DOI:**

[10.26481/dis.20200908as](https://doi.org/10.26481/dis.20200908as)

**Document Version:**

Publisher's PDF, also known as Version of record

**Please check the document version of this publication:**

- A submitted manuscript is the version of the article upon submission and before peer-review. There can be important differences between the submitted version and the official published version of record. People interested in the research are advised to contact the author for the final version of the publication, or visit the DOI to the publisher's website.
- The final author version and the galley proof are versions of the publication after peer review.
- The final published version features the final layout of the paper including the volume, issue and page numbers.

[Link to publication](#)

**General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal.

If the publication is distributed under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license above, please follow below link for the End User Agreement:

[www.umlib.nl/taverne-license](http://www.umlib.nl/taverne-license)

**Take down policy**

If you believe that this document breaches copyright please contact us at:

[repository@maastrichtuniversity.nl](mailto:repository@maastrichtuniversity.nl)

providing details and we will investigate your claim.

## **Propositions**

accompanying the dissertation

### **Role for phosphatidylinositol 4-kinase III $\beta$ in cardiac metabolic diseases**

Aomin Sun

Maastricht, September 8, 2020

1. In cardiac myocytes PI4KIII $\beta$  is a key component of contraction-induced glucose uptake but is not involved in contraction-induced fatty acid uptake (*this thesis*).
2. Unlike protein kinase D1 (PKD1), PI4KIII $\beta$  is not participating in common pathways associated with cardiac hypertrophy (*this thesis*).
3. Overexpression of PI4KIII $\beta$  increases basal glucose uptake in cardiomyocytes and preserves insulin sensitivity in lipid-overloaded cardiomyocytes (*this thesis*).
4. Inhibition of PI4KIII $\beta$  by MI14 decreases enhanced glucose uptake in the hypertrophic cardiomyocytes (*this thesis*).
5. As an inhibitor of PI4KIII $\beta$ , MI14 prevents contractile dysfunction in the hypertrophic heart (*this thesis*).
6. PI4KIII $\beta$  is an essential host factor for severe acute respiratory syndrome coronavirus (SARS-Cov).
7. Patient-specific human induced pluripotent stem cell-derived cardiomyocytes offer an experimental platform to model cardiovascular diseases.
8. By virtue of its contribution to the development of pathological cardiac hypertrophy, store-operated Ca<sup>2+</sup> entry (SOCE) provides a suitable therapeutic strategy for maintaining contractility reserve after hypertrophic stress.
9. Science gathers knowledge faster than society gathers wisdom, which is the saddest aspect of life right now (*Isaac Asimov*).
10. The science of today is the technology of tomorrow (*Edward Teller*).
11. Bad times have a scientific value. These are occasions a good learner would not miss (*Ralph Waldo Emerson*).